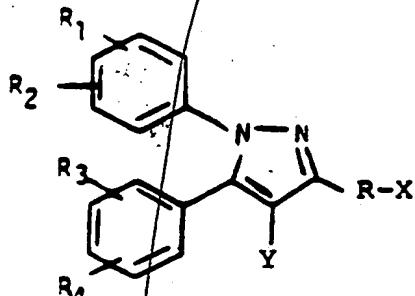


~~(CM)~~ WHAT IS CLAIMED IS:

1. A compound having a structure that corresponds to the formula:



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wherein

R_1 , R_2 , R_3 and R_4 are the same or different and are individually selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, phenyl, halo, hydroxy, lower alkylsulfonyl, lower alkylthio, nitro, trifluoromethyl, omega-trifluoromethyl lower alkoxy, amino, acetamido, carboxy, alkylhydroxamic acid, or where R_1R_2 or R_3R_4 , taken together with the phenyl group to which they are attached, form a naphthyl or substituted naphthyl group;

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R is a straight chained, saturated or unsaturated hydrocarbon that contains 2-16 carbon atoms;

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Y is hydrogen, bromo, chloro or lower alkyl;

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and X is selected from the group consisting of

carboxy, hydroxy, acetoxy, alkanoyloxy, lower alkoxy, lower alkyl carbonyl, oximino, cyano, amino, $C(O)-R_5$ and $-C(O)C(O)-R_5$ wherein R_5 is selected from the group

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consisting of hydrogen, alkyl, lower alkoxy, NR_6R_7 wherein R_6 and R_7 are the same or different and are

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selected from the group consisting of hydrogen and lower alkyl, or R_6 or R_7 are selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, hydroxy, acyloxy, benzyloxy, 2-hydroxy lower alkyl, lower alkyl carboxy, phenyl, substituted phenyl, pyridyl, thiazolyl, dihydrothiazolyl, 5-tetrazolyl,

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-OCO(CH₂)_nCOR₉ wherein R₉ is -OH, -ONa,
dialkylamino such as diethylamino and morpholino, and n is
2 or 3; -OCOR₁₀ wherein R₁₀ is -CH₂NR₁₁R₁₂
wherein R₁₁ and R₁₂ are alkyl, such as methyl,
5 cycloalkyl such as cyclohexyl, or together are a
heterocyclic ring such as N-methylpiperazino, -OCOR₁₀
wherein R₁₀ is -CH₂Cl, -CH₂O-loweralkyl or t-butyl,
-CH-loweralkyl-CO₂-Q, wherein Q is lower alkyl or -H,
acyl such as acetyl, propionyl or butyryl; -NR₈OH
10 wherein R₈ is hydrogen, -CO-loweralkyl, -CO-t-butyl,
-COC₇H₁₅, -CO-phenyl, SO₂-lower alkyl,
-COCO₂-lower alkyl, and -COCONHOH; -NHR₁₃ wherein
R₁₃ is hydrogen, -CO-lower alkyl, -CO-t-butyl,
-COC₇H₁₅, -CO-phenyl, -SO₂-lower alkyl,
15 -COCO₂-lower alkyl, -COCONHOH, -COCO₂H, COCON(lower
alkyl)OH, and PO(O-lower alkyl)₂;
-C(R₁₄)=NNH-2-thiazolino, -CH(OH)R₁₄ and -C(O)R₁₄
wherein R₁₄ is hydrogen, lower alkyl, phenyl and
t-butyl; -C(=NOH)NH₂ and -C(=NH)N(OH)-lower alkyl,
20 ω-alkanoate and O-NR₈R₉ wherein R₈ and R₉ are
the same or different and are selected from the group
consisting of hydrogen, lower alkyl, phenyl and
substituted phenyl;

with the provisos that:

- 25 (a) when Y is bromo or chloro, X is -COOH,
-CH₂OH or -C(O)-R₅ wherein R₅ is NR₆R₇ and R₆
is OH and R₇ is lower lakyl;
- (b) at least one of R₁ and R₂ is other than
hydrogen where (i) R-X is (CH₂)₂CO₂H or
30 (CH₂)₂C(O)NHOH, and (ii) R₃ and R₄ are 4-methoxy,
3-methoxy-4-hydroxy, 2-hydroxy and hydrogen and
- (c) at least one of R₁ and R₂, or of R₃
and R₄ is other than hydrogen where R-X together
contains three saturated carbon atoms linked together by
35 carbon-carbon bonds; and pharmaceutically acceptable salts

thereof.

2. The compound according to claim 1 wherein R₂ and R₄ are hydrogen, and R₁ and R₃ are selected from the group consisting of halo, trifluoromethyl, lower alkyl and lower alkoxy.

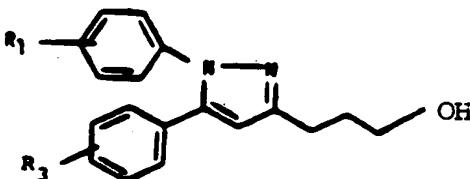
3. The compound according to claim 2 wherein R is straight chained, saturated and contains three carbon atoms bonded together by carbon-carbon bonds.

4. The compound according to claim 3 wherein X is selected from the group consisting of hydroxy, carboxy, a carboxylate salt of a pharmaceutically acceptable cation, C(O)-NR₆R₇ wherein R₆ and R₇ are selected from the group consisting of hydrogen, hydroxyl, methyl, t-butyl, 2-hydroxyethyl and carboxymethyl.

5. The compound according to claim 2 wherein R is unsaturated and contains 2-16 carbon atoms.

6. The compound according to claim 5 wherein X is carboxyl or a salt thereof.

7. A compound having a structure that corresponds to the formula:



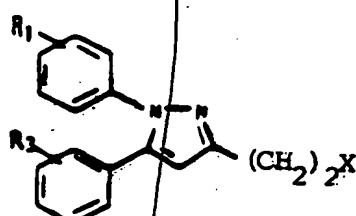
wherein R₁ and R₃ are selected from the group consisting of halo, trifluoromethyl, methyl and methoxy.

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8. A compound having a structure that corresponds to the formula:

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wherein R₁ and R₃ are selected from the group consisting of halo, trifluoromethyl, methyl, phenyl and methoxy; and

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X is selected from the group consisting of carboxy, C(O)-R₅ wherein R₅ is selected from the group consisting of N(CH₃)OH, N(*t*-C₄H₉)OH, NHOH, ONH(CH₃) and ONH(*t*-C₄H₉).

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9. A compound of claim 1 which is 3-[5-(4-chlorophenyl)-1-(4-methoxyphenyl)-3-pyrazolyl]N-hydroxy-N-methylpropanamide. 9

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10. A compound of claim 1 which is 5-(4-chlorophenyl)-3-(3-hydroxypropyl)-1-(4-methoxyphenyl)pyrazole. 78

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11. A compound of claim 1 which is 5-(4-trifluoromethylphenyl)-3-(3-hydroxypropyl)-1-(4-methoxyphenyl) pyrazole. 78

12.

12. A compound of claim 1 which is 1-(4-bromophenyl)-5-(4-chlorophenyl)-3-(3-hydroxypropyl) pyrazole. 78

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13. A compound of claim 1 which is sodium 8-[5-(4-chlorophenyl)-1-(4-methoxyphenyl)-3-pyrazolyl]-5(Z)-octenoate.

14. A compound of claim 1 which is sodium 3-[5-(4-chlorophenyl)-1-(4-methoxyphenyl)-3-pyrazolyl] propanoate.

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B

15. A compound of claim 1 which is
3-[5-(4-chlorophenyl)-1-(4-methoxyphenyl)-3-pyrazolyl]-
N-tert-butyl-N-hydroxypropanamide.

B

16. A compound of claim 1 which is
N-carboxymethyl-3-[5-(4-chlorophenyl)-1-(4-methoxyphenyl)-
3-pyrazolyl]-propanamide.

B

17. A compound of claim 1 selected from the
group consisting of N-carboxymethyl-3-[5-(4-chlorophenyl)-
1-(4-methoxyphenyl)-3-pyrazolyl]-propanamide.

B

18. 3-[5-(4-chlorophenyl)-1-(4-methoxyphenyl)-3-pyrazolyl]-N-
hydroxy-N-isopropylpropanamide, 3-[5-(4-chlorophenyl)-1-(
4-methoxyphenyl)-3-pyrazolyl]-N-cyclohexyl-N-hydroxy-
propanamide, and 3-[5-(4-chlorophenyl)-1-(4-methoxy-
phenyl)-3-pyrazolyl]-N-ethyl-N-hydroxypropanamide.

D

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18. A compound of claim 1 selected from the
group consisting of 3-[5-(4-chlorophenyl)-1-(
4-methoxyphenyl)-3-pyrazolyl]-N-hydroxy-N-phenyl-
propanamide, 3-[5-(4-chlorophenyl)-1-(4-methoxyphenyl)-3-
pyrazolyl]propylamine, 3-[5-(4-chlorophenyl)-1-(
4-methoxyphenyl)-3-pyrazolyl]propanal,
5-(4-chlorophenyl)-3-(3-oximino-propyl)-1-(4-methoxyphenyl)-
pyrazole and 3-(3-hydroxypropyl)-1-(4-methoxyphenyl)-
5-(4-tolyl)pyrazole.

Claims

7 to 12

B

19. A pharmaceutical composition for topical,
oral, parenteral and aerosol administration, comprising an
effective amount of a substituted pyrazole compound
according to claim 1 as active ingredient dispersed in a
pharmaceutically acceptable carrier.

C

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20. The pharmaceutical composition according to
claim 19 wherein said substituted pyrazole compound is
capable of inhibiting both the cyclooxygenase and
lipoxygenase pathways in the amount present in the
composition when said composition is introduced into a
mammal.

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21.¹³ A method for alleviating inflammation in a mammal exhibiting an inflammatory response comprising administering to said mammal a pharmaceutical composition according to claim 19.

5 22.¹⁴ A method for treating inflammatory conditions of skin, including psoriasis or other dermatitis, comprising administering to said mammal a pharmaceutical composition according to claim 19.

10 23. A method for treating myocardial insufficiencies, including angina, vasospasm, infarction, comprising administering to said mammal a pharmaceutical composition comprising an amount effective against myocardial insufficiency, of a substituted pyrazole compound according to claim 1 as active ingredient, dispersed in a pharmaceutically acceptable carrier.

15 24. A method for treating asthma and allergic hypersensitivity diseases comprising administering to said mammal an effective amount of a pharmaceutical composition according to claim 19.

20 25. A method for synthesizing a 1,5-diaryl-3-(omega-substituted lower alkyl)-pyrazole of claim 1 comprising reacting an arylhydrazine with a 1-aryl-(omega-substitued)-alkyl-1,3-dione containing at least 4 carbons in the alkyl chain, said reaction being carried out in a solvent that is substantially inert to said reaction conditions, and said omega-substituent being substantially inert to said reaction conditions, wherein said aryl groups are the same or different and are mono- or di-substituted phenyl wherein said phenyl substituents are selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, phenyl, halo, hydroxy, lower alkylsulfonyl, lower alkylthio, nitro, trifluoromethyl, omega-trifluoromethyl lower alkoxy, napthyl and substituted naphthyl.

D C
26. A compound of claim λ which is
3-[1-(4-methoxyphenyl)-5-(4-methylphenyl)-3-pyrazolyl]-
N-hydroxy-N-methyl propanamide.

C
5 27. A compound of claim λ which is
3-[1-(4-methoxyphenyl)-5-(4-methylphenyl)-3-pyrazolyl]-
N-methyl-N-succinylpropanamide.

C
10 28. A compound of claim λ which is
3-[5-(4-chlorophenyl)-1-(4-methoxyphenyl)-3-pyrazolyl]-
N'-N'-dimethylglycinyloxy-N-methylpropanamide.

C
15 29. A compound of claim λ which is
N-[3-[5-(4-chlorophenyl)-1-(4-methoxyphenyl)-3-pyrazolyl]
propyl]-N,N'-dihydroxyoxamide.

C
20 30. A compound of claim λ which is
N-acetyl-N-acetoxy[5-(4-chlorophenyl)-1-(4-methoxyphenyl)-
3-pyrazolyl]propanamide.

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